



Contribution ID: 61

Type: **Talk**

Recent results from SND@LHC experiment

Tuesday 27 August 2024 11:00 (20 minutes)

The Scattering and Neutrino Detector at the LHC – SND@LHC is a compact and stand-alone experiment to perform measurements with neutrinos produced at the LHC in a hitherto unexplored pseudo-rapidity region of $7.2 < \eta < 8.4$, complementary to all the other experiments at the LHC. The experiment is located 480 m downstream of IP1 in the unused TT18 tunnel. The detector target region is composed of bricks of emulsion cloud chambers, made of alternating layers of tungsten absorber and nuclear emulsion films, for a total target mass of ~ 800 kg. The emulsion cloud chambers bricks are interleaved scintillating fiber tracker layers, which allow to identify candidates for neutrino interactions in the emulsions, to assign a timestamp to the events and act as a sampling electromagnetic calorimeter. The target followed downstream by a calorimeter and a muon system. This configuration allows efficiently distinguishing between all three neutrino flavors, opening a unique opportunity to probe physics of heavy flavor production at the LHC in the region that is not accessible to ATLAS, CMS and LHCb. This region is of particular interest also for future circular colliders and for predictions of very high-energy atmospheric neutrinos. The detector concept is also well suited to searching for Feebly Interacting Particles via signatures of scattering in the detector target. The first phase aims at operating the detector throughout LHC Run 3 to collect a total of 150 fb^{-1} . The presentation will focus on the results of the data taken in 2022-2023 and report the status of the analysis of 2024 data.

Internet talk

No

Is this an abstract from experimental collaboration?

Yes

Name of experiment and experimental site

SND@LHC CERN

Is the speaker for that presentation defined?

Yes

Details

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